OPPORTUNITIES FOR INVESTMENT IN RENEWABLE ENERGY AND ENERGY EEFICIENCY IN NIGERIA

By

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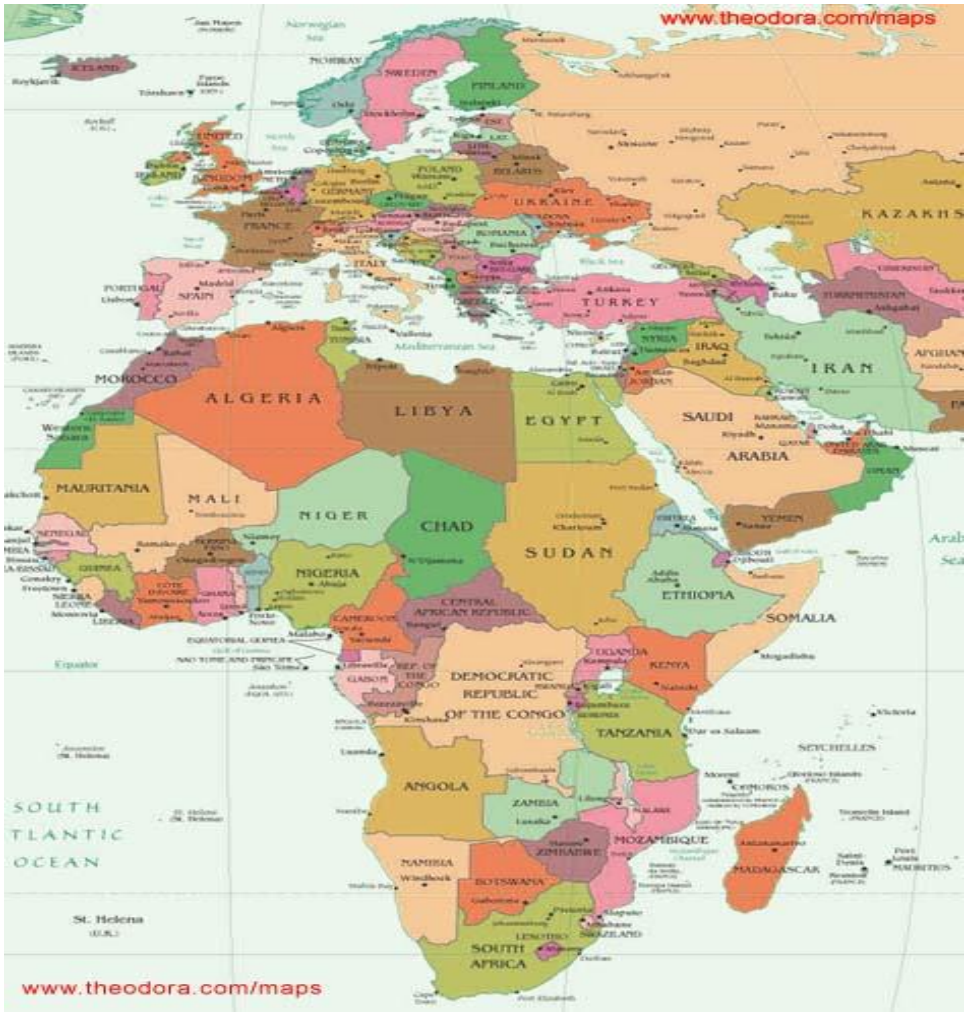
Outline

- Introduction
- Renewable Energy (RE) & Energy efficiency(EE) in Nigeria
- Investment Opportunities in Nigeria's RE & EE
- Investment Incentives
- Challenges
- Concluding Remarks

1. Introduction



Relative Location of Nigeria.

1. Introduction

- Nigeria has a population of about 168 million people in 2012 with a 3.2% growth rate per annum
- The country has both fossil and renewable energy resources.
- Electricity generation installed capacity in Nigeria is about 11,000 MW in 2013 (grid) out of which 82% is powered by natural gas and 18% by Large Hydropower. However, daily electricity production is about 30% of the installed capacity.
- Fuel for transportation, heating and lighting is mainly fossil fuel, while cooking is generally done using firewood(over 80%). Capacity utilization of the local refineries in 2013 averaged about 26%. Domestic demand for products is therefore met largely from imports.

1. Introduction contd

Socio-Economic Indicators (2012)

Location	Nigeria situated between latitudes 4° N and 14° N and longitudes 3° E and 14° E
Total Area	92.4 million hectares (Land 86%, Water 14%) About 4 times size of UK and 131 times size of Republic of Ireland.
Forest and Woodlands	11.6%
Polity	Democracy (Presidential System)
Population / rate	168.5 million @ 3.2 %(About 2.7 times population of of UK & 37 times that of Republic of Ireland)
Economic Indicators	
• Nominal GDP	US$540 Billion
• Major Contributors to GDP	- Service Sector:50.9% - Agriculture : 22.4% - Energy (Petroleum): 15.9%
• GDP growth rate	6.7% compare with 1.7% UK and -0.3% Ireland in 2013
• Interest rate	MPR:12%; Prime:16.54%; Maximum:24.61%
• Exchange rate	US$1 = N158.84
• Inflation rate	12%
• Major contributor to foreign Exchange earnings	Oil (approx. 97%)

Source: CBN, 2012; NBS, 2014; REMP, 2005

1. Introduction contd

Socio-Economic Indicators (2012)

Social Indicators	
• GDP/Capita	US$2,271.8 compare with $47,000 in Ireland
• Energy Consumption/Capita	67.7 kgoe compare with about 2888kgoe in Ireland
• Electricity Consumption/Capita	175.9 kWh compare with 5701kWh in Ireland
• Energy Intensity	0.03 kgoe/GDP
• Urbanization	50%
• Electricity Access	55%
• Adult Literacy rate	67%
• Life Expectancy	48 years
• Unemployment rate	25.7%

Source: CBN, 2012; NBS, 2014; NCC(Oshogbo), 2012

1. Introduction contd

Nigeria's Energy Supply and The Economy

S/N	ITEMS	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1.	Electricity generation (billion kWh)	22.03	23.9	24.22 (503)* (10,695)**	23.8	23.3	21.27 (562)* (18,603)**	20.8	25.02	27.7 (619)* (20,407)**	29.6
2,	Energy Consumption per Capita (kgoe/Capita)	151.3	125.5	132.6 (680)* (1,780)**	87.1	81.4	80.8 (670)* (1,830)**	83.1	77.8	73.6 (670)* (1880)**	65.7
3.	Electricity Consumption/capita (kWh/Capita)	174.6	176.4	181.4 (563)* (2596)**	167.6	161.2	142.9 (571)* (2782)**	135.2	157.1	165 (592)* (2933)**	175.9
4.	GDP/Capita (US$/Capita)	620.7	658.0	826.3 (2314)* (8,492)**	1030.3	1223.5	1286.3 (2540)* (9550)**	1,106.8	1440.7	1470.6 (1281)* (7520)**	1513.4
5.	Energy Intensity (kgoe/ US$)	0.244	0,191	0.161 (0.294)* (0.210)**	0.085	0.067	0.063 (0.264)* (0.192)**	0.075	0.054	0.050 (0.550)* (0.250)**	0.043
6.	GDP Growth Rate (%)	9.6	6.6	6.5	6.0	6.5	6.0	7.0	8.0	7.4	6.6

Sources: CBN (2005-2012), NCC, Osogbo (2009 -2012),
****Africa Average - IEA (2007, 2010, 2013)***
*****World Average - IEA (2007,2010, 2013)***

2. Renewable Energy (RE) & Energy Efficiency(EE) in Nigeria

- Renewable energy refers to energy derived from a source that can be regenerated within a reasonably short time frame through natural process. For example solar, wind, hydro, biomass, geothermal, ocean wave and tide.
- The exploitation and utilization of such energy sources are generally environmentally friendlier in terms of pollution, GHG emissions and safety. They are therefore the preferred sources of energy for driving sustainable development.
- While RE is being mainstreamed in Nigeria's energy supply mix, energy efficiency and conservation is being equally promoted as an instrument for reducing energy costs and mitigation of climate change.

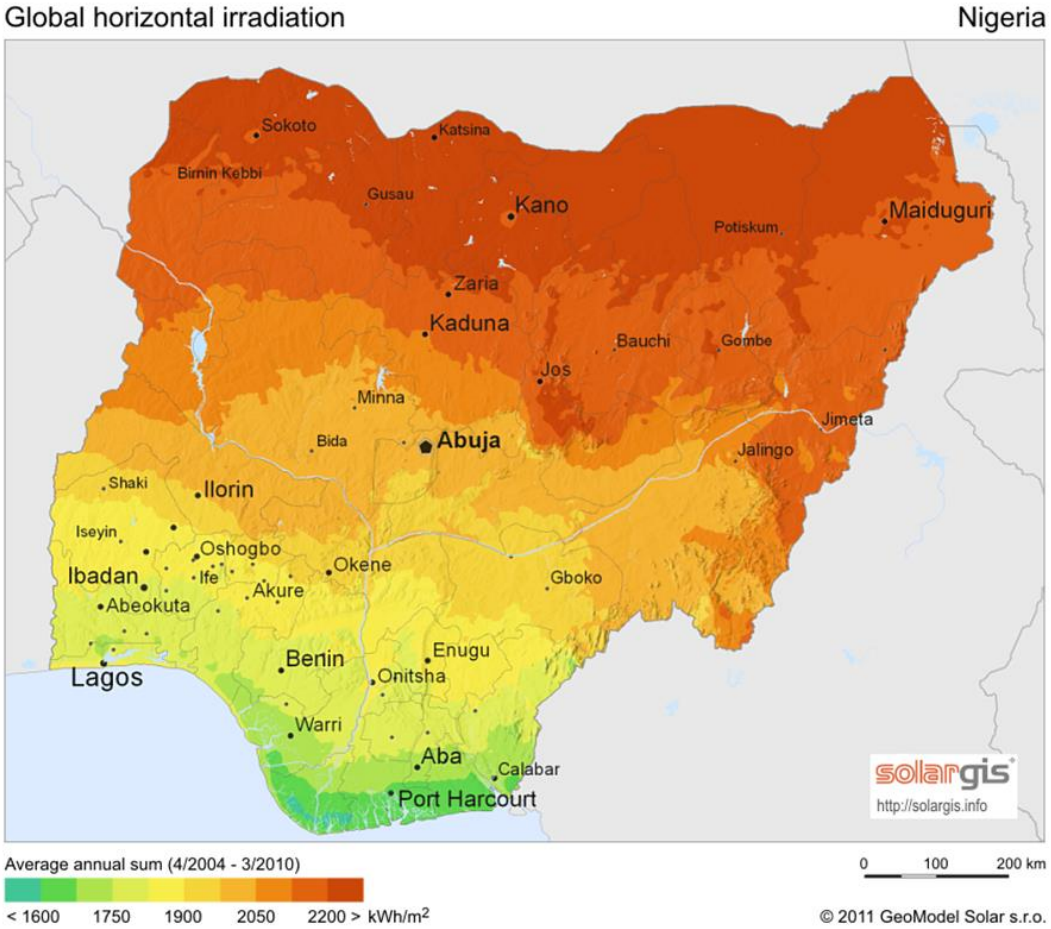
2. RE & EE in Nigeria

Resource Potential & Utilization

S/No	Resource		Reserve	Utilization Level
1	Large hydro power		11,250MW	1,900MW
2	Small Hydro power		3,500MW	64.2MW
3	Solar Energy		4.0 kWh/m^2/day 6.5kWh/m^2/day	15MW solar PV stand-alone No solar thermal electricity
4	Wind		2-4m/s at 10m height	10MW wind farm in Katsina
5	Biomass	Fuel wood	11 million hectares of forest and woodlands	43.4 million tonnes of firewood/yr
		Municipal waste	- 18.3 million tonnes in 2005* & about 30 million tonnes/yr now	-
		Animal waste	- 243 million assorted animals in 2001	-
		Energy Crops and agric waste	- 28.2 million hectares of Arable land	8.5% cultivated (5MW Rice husk fired pilot power plant in Ebonyi – UNIDO)

2. RE & EE in Nigeria

Solar Energy Resource in Nigeria



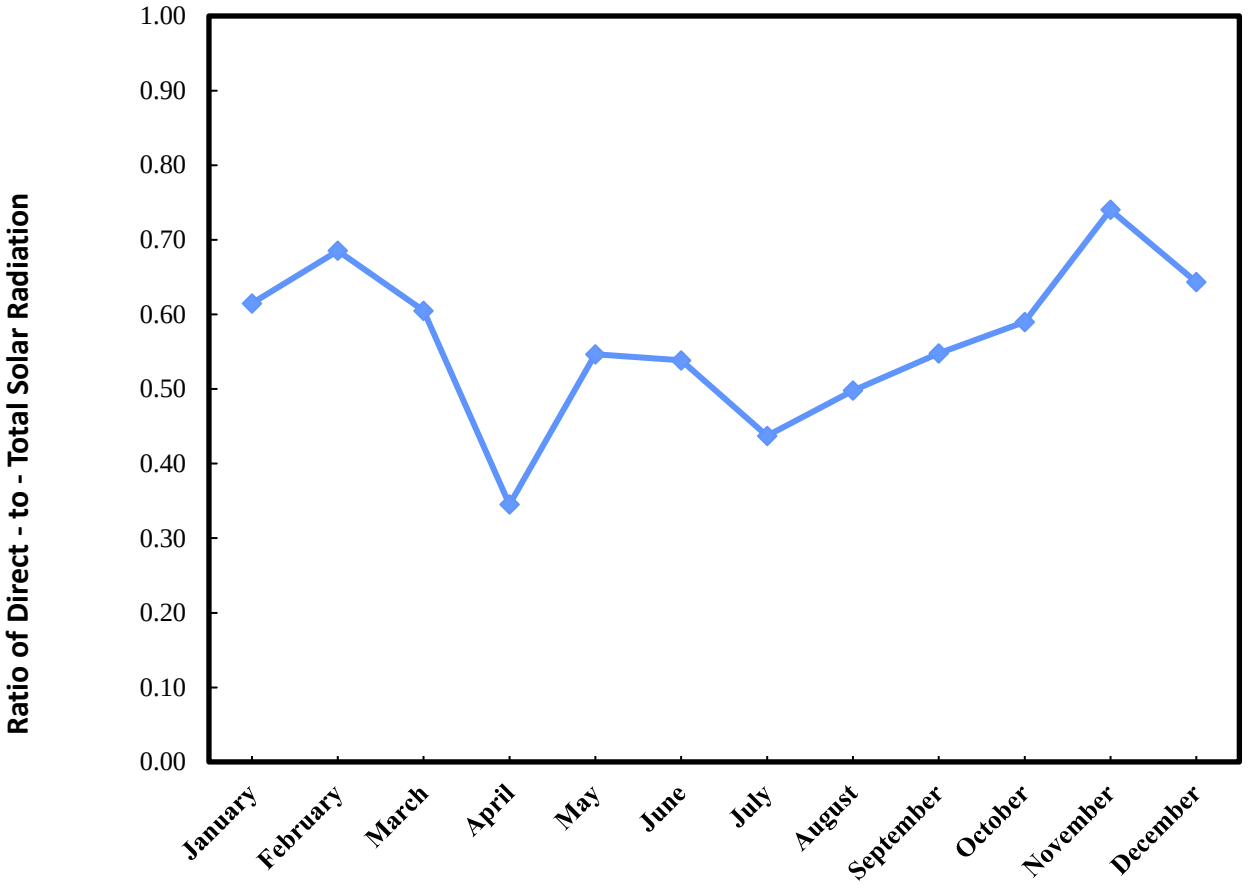
2. RE & EE in Nigeria

Table Monthly Mean Daily Global Solar Radiation kWh /m^2/ day (1951-1986)

Stations	Length of records (years)	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual mean
1. Abeokuta	32	4.107	4.764	4.742	4.951	4.703	3.878	3.510	3.438	3.952	4.423	4.449	4.114	4.253
2. Abuja	27	5.404	5.695	5.986	5.811	5.521	5.114	4.533	4.184	4.880	5.520	5.753	5.637	5.337
3. Akure	30	4.184	4.881	5.153	5.191	4.590	4.296	3.983	3.639	4.021	4.574	4.694	4.608	4.485
4. Azare	4	5.202	5.756	6.176	5.491	5.638	5.771	5.370	5.592	5.880	5.828	5.301	4.842	5.571
5. Bauchi	36	5.614	6.082	6.405	5.913	5.907	5.398	5.194	4.577	5.371	6.037	6.063	6.010	5.714
6. Benin City	36	3.963	4.355	4.517	4.784	4.491	4.100	3.619	3.613	3.939	4.279	4.557	4.206	4.202
7. Calabar	33	3.889	4.546	4.292	4.544	4.206	3.636	3.233	3.415	3.747	3.925	3.983	3.684	3.925
8. Enugu	36	4.472	4.903	5.013	5.156	4.981	4.332	3.954	3.993	4.234	4.050	4.805	4.571	4.539
9. Ibadan	36	4.740	5.150	5.299	5.106	4.984	4.285	3.764	3.480	4.437	4.616	4.956	4.577	4.616
10. Ilorin	36	4.717	5.456	5.706	5.470	5.182	4.787	4.176	4.016	5.310	4.964	5.017	4.940	4.979
11. Jos	36	6.108	6.656	6.416	5.598	5.350	5.365	4.730	4.347	5.216	5.865	6.118	6.060	5.653
12. Kaduna	27	5.700	6.050	6.340	5.930	6.050	5.410	4.707	4.184	5.172	5.930	6.020	6.566	5.673
13. Kano	36	5.577	5.849	6.114	6.241	6.572	6.121	5.881	5.245	6.115	6.361	6.062	5.899	6.003
14. Katsina	4	3.554	3.691	4.910	5.834	5.870	5.839	5.342	4.014	4.150	4.750	5.482	3.757	4.766
15. Lagos	28	4.372	4.146	5.012	5.014	4.536	3.847	3.762	3.779	3.953	4.401	4.471	3.780	4.256
16. Lokoja	4	4.815	4.797	5.099	5.890	5.388	4.622	4.891	4.931	4.737	5.309	5.154	4.845	5.035
17. Maiduguri	34	5.805	6.145	6.664	6.892	6.705	6.173	5.746	5.106	6.043	6.505	6.315	6.008	6.176
18. Makurdi	32	5.107	5.634	5.628	5.705	5.349	4.786	4.459	4.323	4.547	5.181	5.230	4.976	5.077
19. Minna	31	5.386	5.843	5.827	5.881	5.877	5.294	4.525	4.295	4.934	5.659	5.932	5.665	5.427
20. New Bussa	4	4.647	5.103	5.557	5.509	5.292	4.786	4.268	4.032	4.975	5.083	5.135	5.040	4.952
21. Nguru	4	6.297	5.036	6.850	7.960	8.048	7.288	7.761	7.793	7.825	6.719	6.538	6.356	6.966
22. Obudu	4	3.574	4.438	5.505	4.797	4.520	3.879	3.176	3.750	4.160	4.425	4.275	3.850	4.224
23. Owerri	35	4.018	4.307	4.191	4.775	4.523	4.040	3.639	3.729	4.008	4.113	4.280	4.122	4.146
24. Port Harcourt	36	4.000	4.517	4.211	4.634	4.210	3.878	3.477	3.610	3.893	3.968	3.890	3.992	4.023
25. Serti	4	3.936	4.522	4.678	4.758	4.281	4.476	4.670	4.009	4.611	4.696	4.416	4.782	4.488
26. Sokoto	36	5.417	6.038	6.284	6.266	6.321	6.169	5.743	5.026	5.799	6.205	6.004	5.772	5.920
27. Warri	4	3.060	3.486	3.822	4.429	3.919	3.420	3.585	3.386	3.764	4.045	3.865	3.462	3.748
28. Yola	34	5.459	6.282	6.460	5.942	5.978	5.630	5.141	4.806	5.262	5.941	6.106	6.277	5.774

Source: J. O. Ojosu (1990), Solar & Wind Technology Vol. 7 No. 5. pp. 563-575

2. RE & EE in Nigeria



Ratio of Direct-to-Total Solar Radiation in Zaria, Nigeria.(Lat. 11.080N, Long. 7.720E)

Source: E.J. Bala (2014), Paper presented at the World Renewable Energy Congress (WREC XIII), University of Kingston, London, United Kingdom, 3rd – 8th August 2014.

2. RE & EE in Nigeria

Table Monthly Mean Daily Sunshine Hours (1951-1986)

Station	Ave.	Jan	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1. Abeokuta	4.65	5.00	5.35	5.53	5.55	5.90	4.30	3.03	2.15	3.05	4.15	5.73	6.00
2. Akure	5.09	6.52	5.86	6.30	6.37	5.30	4.24	2.74	2.65	3.50	4.83	6.37	6.40
3. Badeggi	7.16	7.88	8.18	7.66	7.13	7.63	7.02	5.05	3.78	5.62	8.12	8.96	8.84
4. Bauchi	7.99	9.10	9.00	8.24	7.23	7.73	6.98	6.90	6.12	7.10	8.74	9.46	9.32
5. Benin City	4.96	5.90	6.07	5.57	5.55	6.03	4.70	2.91	2.56	3.00	4.61	6.06	6.60
6. Bida	6.23	7.35	6.77	6.20	7.10	6.62	5.40	4.50	4.10	5.30	6.80	7.20	7.40
7. Calabar	4.22	5.40	5.20	4.54	5.10	4.92	4.24	2.74	1.90	2.27	3.62	4.96	5.76
8. Enugu	5.61	6.90	6.70	5.25	5.83	5.94	5.37	4.15	3.72	3.71	5.36	7.23	7.20
9. Ibadan	5.26	5.82	6.05	6.09	5.60	6.37	5.11	3.44	2.70	3.10	5.63	6.80	6.84
10. Ibi	6.81	7.51	7.60	7.82	7.80	7.10	5.70	4.30	5.20	5.60	7.00	7.90	8.20
11. Ilorin	6.47	7.41	7.61	7.28	6.71	7.19	6.70	4.91	3.59	4.22	6.56	7.80	7.68
12. Ikom	4.68	5.40	5.73	5.24	6.27	5.20	4.25	2.55	1.90	2.80	4.50	5.20	7.10
13. Ikeja	5.09	6.13	6.92	6.05	5.91	5.80	3.46	2.43	3.06	3.36	5.28	6.27	6.38
14. Jos	7.52	9.40	9.34	8.30	6.97	6.47	6.73	5.01	4.48	5.73	8.09	9.82	9.86
15. Kaduna	7.83	9.00	9.10	8.10	7.83	8.00	7.66	5.91	5.09	6.35	8.18	9.33	9.26
16. Kano	8.26	8.52	8.47	8.02	8.29	8.89	8.78	7.69	6.75	7.87	8.47	8.82	8.51
17. Lagos	5.58	5.70	6.33	6.65	6.65	5.63	4.42	3.64	3.84	4.54	6.02	6.84	6.74
18. Lokoja	6.50	7.06	7.01	6.90	6.42	6.52	5.40	4.18	5.55	5.15	6.57	7.80	9.47
19. Maiduguri	7.99	8.34	8.84	7.91	7.47	8.07	7.80	6.50	6.53	7.48	8.12	9.43	9.00
20. Makurdi	6.73	7.70	8.01	7.30	6.83	6.96	6.40	4.90	4.46	4.85	6.79	8.15	8.40
21. Minna	7.40	8.60	8.50	8.05	7.33	7.84	6.12	5.16	4.35	6.25	8.23	9.15	9.20
22. Nguru	8.44	8.95	7.85	7.70	8.10	9.10	8.00	7.45	8.68	8.05	9.10	9.00	9.30
23. Ogoja	5.67	7.00	6.37	5.97	7.13	6.27	5.20	3.50	2.70	4.10	5.94	6.60	7.17
24. Ondo	5.21	7.24	6.62	5.76	5.60	5.56	4.85	3.05	2.58	2.95	5.01	6.54	6.78
25. Oshogbo	5.82	6.81	6.90	7.14	6.27	6.70	5.73	3.64	2.55	3.44	5.83	7.34	7.54
26. Owerri	4.37	5.45	5.54	5.20	5.00	5.10	2.95	2.75	2.15	3.00	4.10	5.40	5.85
27. Onitsha	4.87	4.74	5.30	5.45	6.54	5.60	4.66	3.37	2.77	3.30	4.50	5.94	6.20
28. Port Harcourt	3.85	4.79	5.00	4.15	4.58	4.50	3.13	2.09	2.59	2.20	3.14	4.70	5.30
29. Potiskum	7.84	8.50	9.15	7.10	8.25	7.75	7.20	6.40	6.20	7.40	8.52	8.20	9.35
30. Sokoto	8.79	9.15	9.10	8.83	8.62	8.67	9.00	8.10	7.42	8.28	9.28	9.60	9.03
31. Warri	4.38	5.62	5.58	4.98	4.85	5.11	3.53	1.93	2.80	2.41	4.27	5.64	5.89
32. Yola	7.85	8.86	7.85	7.38	8.17	8.03	7.86	6.72	6.09	6.73	8.72	8.74	9.02
33. Yelwa	7.46	8.42	7.81	7.34	7.91	7.53	7.15	6.82	5.54	7.35	8.23	6.94	8.52
34. Zaria	7.86	9.15	8.10	7.50	7.90	8.50	7.60	6.15	6.40	7.20	8.20	8.55	9.10

Source: J. O. Ojosu (1990), Solar & Wind Technology Vol. 7 No. 5. pp. 563-575

2. RE & EE in Nigeria

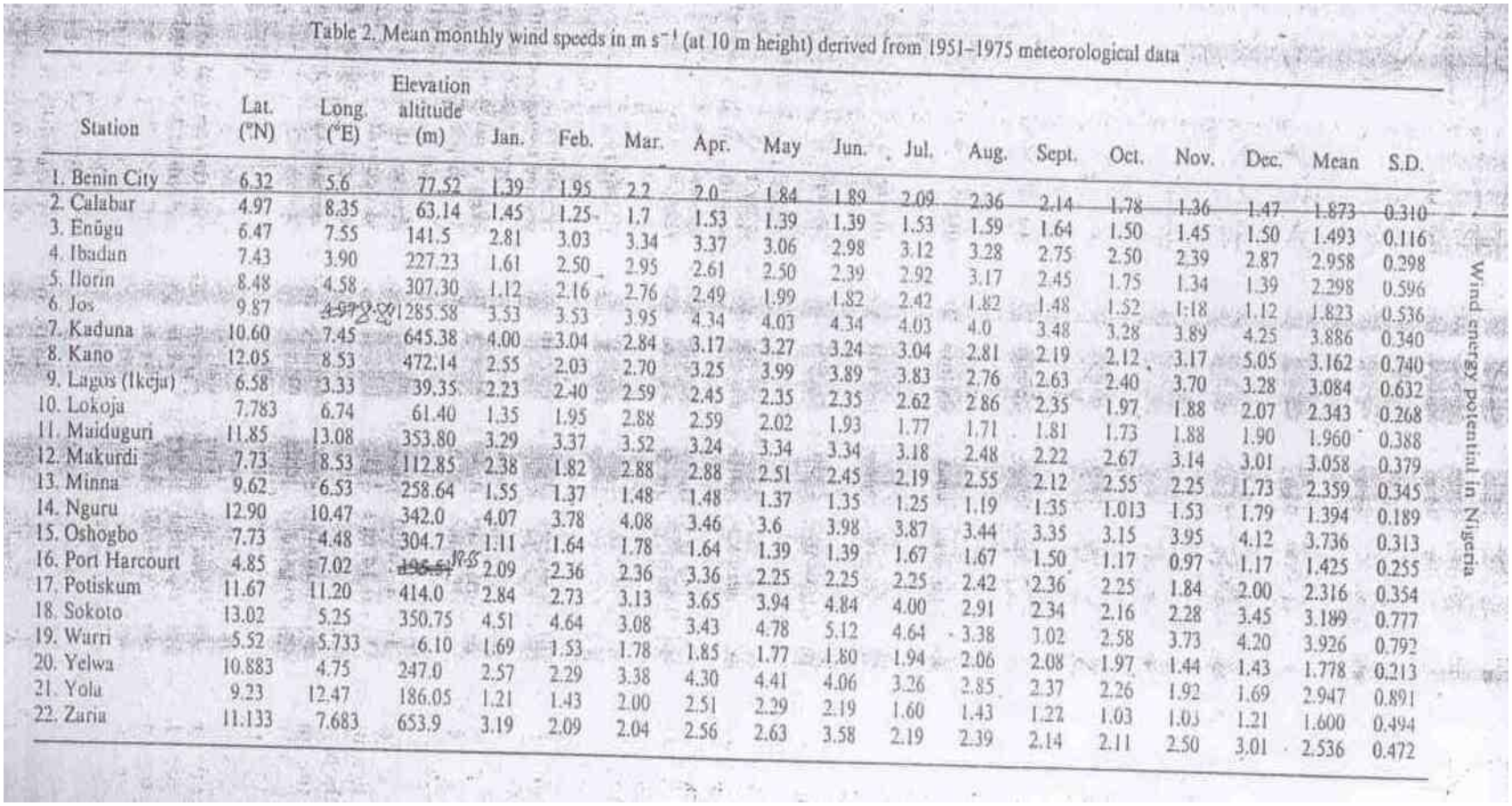


Table 2. Mean monthly wind speeds in m s^{-1} (at 10 m height) derived from 1951–1975 meteorological data

Station	Lat. (°N)	Long. (°E)	Elevation altitude (m)	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	Mean	S.D.
1. Benin City	6.32	5.6	77.52	1.39	1.95	2.2	2.0	1.84	1.89	2.09	2.36	2.14	1.78	1.36	1.47	1.873	0.310
2. Calabar	4.97	8.35	63.14	1.45	1.25	1.7	1.53	1.39	1.39	1.53	1.59	1.64	1.50	1.45	1.50	1.493	0.116
3. Enugu	6.47	7.55	141.5	2.81	3.03	3.34	3.37	3.06	2.98	3.12	3.28	2.75	2.50	2.39	2.87	2.958	0.298
4. Ibadan	7.43	3.90	227.23	1.61	2.50	2.95	2.61	2.50	2.39	2.92	3.17	2.45	1.75	1.34	1.39	2.298	0.596
5. Ilorin	8.48	4.58	307.30	1.12	2.16	2.76	2.49	1.99	1.82	2.42	1.82	1.48	1.52	1.18	1.12	1.823	0.536
6. Jos	9.87	8.9	1285.58	3.53	3.53	3.95	4.34	4.03	4.34	4.03	4.0	3.48	3.28	3.89	4.25	3.886	0.340
7. Kaduna	10.60	7.45	645.38	4.00	3.04	2.84	3.17	3.27	3.24	3.04	2.81	2.19	2.12	3.17	5.05	3.162	0.740
8. Kano	12.05	8.53	472.14	2.55	2.03	2.70	3.25	3.99	3.89	3.83	2.76	2.63	2.40	3.70	3.28	3.084	0.632
9. Lagos (Ikeja)	6.58	3.33	39.35	2.23	2.40	2.59	2.45	2.35	2.35	2.62	2.86	2.35	1.97	1.88	2.07	2.343	0.268
10. Lokoja	7.783	6.74	61.40	1.35	1.95	2.88	2.59	2.02	1.93	1.77	1.71	1.81	1.73	1.88	1.90	1.960	0.388
11. Maiduguri	11.85	13.08	353.80	3.29	3.37	3.52	3.24	3.34	3.34	3.18	2.48	2.22	2.67	3.14	3.01	3.058	0.379
12. Makurdi	7.73	8.53	112.85	2.38	1.82	2.88	2.88	2.51	2.45	2.19	2.55	2.12	2.55	2.25	1.73	2.359	0.345
13. Minna	9.62	6.53	258.64	1.55	1.37	1.48	1.48	1.37	1.35	1.25	1.19	1.35	1.013	1.53	1.79	1.394	0.189
14. Nguru	12.90	10.47	342.0	4.07	3.78	4.08	3.46	3.6	3.98	3.87	3.44	3.35	3.15	3.95	4.12	3.736	0.313
15. Oshogbo	7.73	4.48	304.7	1.11	1.64	1.78	1.64	1.39	1.39	1.67	1.67	1.50	1.17	0.97	1.17	1.425	0.255
16. Port Harcourt	4.85	7.02	196.51	2.09	2.36	2.36	3.36	2.25	2.25	2.25	2.42	2.36	2.25	1.84	2.00	2.316	0.354
17. Potiskum	11.67	11.20	414.0	2.84	2.73	3.13	3.65	3.94	4.84	4.00	2.91	2.34	2.16	2.28	3.45	3.189	0.777
18. Sokoto	13.02	5.25	350.75	4.51	4.64	3.08	3.43	4.78	5.12	4.64	3.38	3.02	2.58	3.73	4.20	3.926	0.792
19. Warri	5.52	5.733	6.10	1.69	1.53	1.78	1.85	1.77	1.80	1.94	2.06	2.08	1.97	1.44	1.43	1.778	0.213
20. Yelwa	10.883	4.75	247.0	2.57	2.29	3.38	4.30	4.41	4.06	3.26	2.85	2.37	2.26	1.92	1.69	2.947	0.891
21. Yola	9.23	12.47	186.05	1.21	1.43	2.00	2.51	2.29	2.19	1.60	1.43	1.22	1.03	1.03	1.21	1.600	0.494
22. Zaria	11.133	7.683	653.9	3.19	2.09	2.04	2.56	2.63	3.58	2.19	2.39	2.14	2.11	2.50	3.01	2.536	0.472

Wind energy potential in Nigeria

Source: J. O. Ojosu and R. I. Salawu “A Survey of Wind Energy Potentials in Nigeria”, Solar & Wind Tech Vol. 7, No. 23 Pg. 155 – 167, (1990)

3. Investment Opportunities in Nigeria's RE & EE

The following final energy forms can be obtained from RE sources:

- Electricity
- Fuels
- Process Heat

3. Investment Opportunities… Cont'd

Electricity Generation Investment Opportunities

Resource	Investment opportunity
Large Hydropower	About 11,000MW by 2030
Small Hydropower	About 3500MW by 2030
Solar	48,000MW by 2030
Wind	50MW by 2030
Biomass	100MW by 2030

- **Electricity from renewable energy sources to contribute about 20% of the total electricity supply by 2030**
- **Investments can be in form of Grid-connected electricity, off-grid large scale Solar Plants, Solar Home Systems, Solar Water Pumping, Solar Community Services PV Refrigerators, PV Street and traffic lighting etc**

3. Investment Opportunities... Cont'd

Some Small & Medium Hydro Power Projects for Investments in Nigeria

Dam	State	Capacity (MW)	Estimated Cost US$ ' million
Oyan	Ogun	10	7.5
Ikere Gorge	Oyo	6	11.0
Bakolori	Zamfara	3	4.275
Challawa	Kano	7.7	33.5
Tiga	Kano	10	44.562
Kampe	Kogi	3	8.125
Owena	Ondo	0.45	1.2875
Doma	Nasarawa	1	4.9
Zobe	Kasina	0.30	1.532
Jibia	Katsina	4	91.25
Total		**83.25**	**207.931**

Source: Federal Ministry of Power

3. Investment Opportunities… Cont'd

Fuel Investment Opportunities:

- *Biofuel Production Plants to produce Bio Ethanol and Biodiesel(E10 & B20 allowed by policy)*
- *Production of biofuel feedstocks(sugarcane, cassava, jatropha, etc)*
- *Biogas Production Plants to produce industrial and domestic cooking gas*

3. Investment Opportunities… Cont'd

Process Heat Investment Opportunities:

- *Solar Water Heaters*
- *Solar Cookers*
- *Solar Dryers*
- *Solar Stills*
- *Solar Pasteurizers*

3. Investment Opportunities… Cont'd

Capacity Building:

- Research & Development
- RE teaching & demonstration equipment supply
- Maintenance of RE systems
- Off shore training

Energy Efficiency & Conservation

- Appliances supply & manufacture
- Testing laboratories
- Conduct of energy audits
- Trainings

4. Investment Incentives

The Nigerian Government, through the Nigerian Investment and Promotion Council(NIPC) and other agencies, has put in place a number of investment incentives for the stimulation of private sector investment from within and outside the country. While some of these incentives cover all sectors, other are limited to some specific sectors.

- There is the **National Energy Policy** which encourages a diversified energy supply mix to include renewable energy & energy efficiency through active **private sector participation**. A separate National Renewable Energy & Energy Efficiency Policy, derived from the NEP, is now under consideration by government; in view of demand mainly from investors and development partners.

4. Investment Incentives Cont'd

- ***Reforms in the Electricity sub-sector:*** *The electricity sub-sector has been deregulated and liberalized by law, with a strong regulator established.*

- ***Companies Income Tax:*** The Companies Income Tax Act has been amended in order to encourage potential and existing investors and entrepreneurs. The current rate in all sectors, except for petroleum, is 30 percent (Source:NIPC)

4. Investment Incentives Cont'd

- ***Pioneer Status:*** The grant of Pioneer Status to an industry is aimed at enabling the industry concerned to make a reasonable level of profit within its formative years. The profit so made is expected to be ploughed back into the business. Pioneer status is a tax holiday granted to qualified or (eligible) industries anywhere in the Federation and seven-year tax holiday in respect of industries located in economically disadvantaged local government area of the Federation. All Energy Sector investments have this status.
- There are **FGN and World Bank guarantees on PPAs**

4. Investment Incentives Cont'd

- ***Feed-in Tariff:*** The electricity industry regulator, the Nigeria Electricity Regulatory Commission(NERC) has introduced feed-in-tariff, which is designed to enable producers of renewable electricity sell their power to the grid at a predetermined and cost reflective value with reasonable profit margin
- **Zero Import Duty for Power Equipment** including renewables

5. Challenges

- Perceived relatively high cost of doing business
- Insecurity in some parts of the country

All these, however, are being mitigated by government through attraction of investments for growing the needed infrastructure, strengthening of anticorruption and security agencies in collaboration with international community.

- Finance(local & foreign)

6. Concluding Remarks

- Nigeria is endowed with huge Renewable Energy Potentials, which are still grossly under-exploited. These Potentials can be harnessed public private partnerships to generate electricity, fuels and process heat efficiently, which are vital in driving economic activities. With government's strong political will and the incentives available, investors can now come into the renewable sector of the country and invest profitably taking advantage of the large population of, and market in, the nation.

THANK YOU ALL